(3)(i) The FTP-based city fuel economy values of the model type (calculated to the nearest 0.0001 mpg) are determined by dividing one by a sum of terms, each of which corresponds to a base level and which is a fraction determined by dividing:

(A) The sales fraction of a base level; by

(B) The FTP-based city fuel economy value for the respective base level.

(ii) The FTP-based city carbon-related exhaust emission value of the model type (calculated to the nearest gram per mile) are determined by a sum of terms, each of which corresponds to a base level and which is a product determined by multiplying:

(A) The sales fraction of a base level; by

(B) The FTP-based city carbon-related exhaust emission value for the respective base level.

(iii) The FTP-based city CO_2 emissions of the model type (calculated to the nearest gram per mile) are determined by a sum of terms, each of which corresponds to a base level and which is a product determined by multiplying:

(A) The sales fraction of a base level; by

(B) The FTP-based city CO_2 emissions for the respective base level.

(4) The procedure specified in paragraph (b)(3) of this section is repeated in an analogous manner to determine the highway and combined fuel economy, CO_2 emissions, and carbon-related exhaust emissions for the model type.

(5) For alcohol dual fuel automobiles and natural gas dual fuel automobiles, the procedures of paragraphs (b)(1) through (4) of this section shall be used to calculate two separate sets of city, highway, and combined fuel economy values and two separate sets of city, highway, and combined CO_2 and carbon-related exhaust emission values for each model type.

(i) Calculate the city, highway, and combined fuel economy, CO_2 emissions, and carbon-related exhaust emission values from the tests performed using gasoline or diesel test fuel.

(ii) Calculate the city, highway, and combined fuel economy, CO_2 emissions, and carbon-related exhaust emission values from the tests performed using alcohol or natural gas test fuel.

[76 FR 39552, July 6, 2011]

§ 600.209–12 Calculation of vehicle-specific 5-cycle fuel economy and CO_2 emission values for a model type.

(a) *Base level.* 5-cycle fuel economy and CO_2 emission values for a base level are calculated from vehicle configuration 5-cycle fuel economy and CO_2 emission values as determined in § 600.207 for low-altitude tests.

(1) If the Administrator determines that automobiles intended for sale in the State of California are likely to exhibit significant differences in fuel economy and CO_2 emissions from those intended for sale in other states, he will calculate fuel economy and CO_2 emission values for each base level for vehicles intended for sale in California and for each base level for vehicles intended for sale in the rest of the states.

(2) In order to highlight the fuel efficiency and CO_2 emissions of certain designs otherwise included within a model type, a manufacturer may wish to subdivide a model type into one or more additional model types. This is accomplished by separating subconfigurations from an existing base level and placing them into a new base level. The new base level is identical to the existing base level except that it shall be considered, for the purposes of this paragraph, as containing a new basic engine. The manufacturer will be permitted to designate such new basic engines and base level(s) if:

(i) Each additional model type resulting from division of another model type has a unique car line name and that name appears on the label and on the vehicle bearing that label;

(ii) The subconfigurations included in the new base levels are not included in any other base level which differs only by basic engine (*i.e.*, they are not included in the calculation of the original base level fuel economy values); and

(iii) All subconfigurations within the new base level are represented by test data in accordance with § 600.010(c)(i)(ii).

(3) The manufacturer shall supply total model year sales projections for

each car line/vehicle subconfiguration combination.

(i) Sales projections must be supplied separately for each car line-vehicle subconfiguration intended for sale in California and each car line/vehicle subconfiguration intended for sale in the rest of the states if required by the Administrator under paragraph (a)(1) of this section.

(ii) Manufacturers shall update sales projections at the time any model type value is calculated for a label value.

(iii) The provisions of this paragraph (a)(3) may be satisfied by providing an amended application for certification, as described in § 86.1844 of this chapter.

(4) 5-cycle vehicle configuration fuel economy and CO_2 emission values, as determined in § 600.207–12(a), (b), or (c), as applicable, are grouped according to base level.

(i) If only one vehicle configuration within a base level has been tested, the fuel economy and CO_2 emission values from that vehicle configuration constitute the fuel economy and CO_2 emission values for that base level.

(ii) If more than one vehicle configuration within a base level has been tested, the vehicle configuration fuel economy values are harmonically averaged in proportion to the respective sales fraction (rounded to the nearest 0.0001) of each vehicle configuration and the resultant fuel economy value rounded to the nearest 0.0001 mile per gallon.

(iii) If more than one vehicle configuration within a base level has been tested, the vehicle configuration CO_2 emission values are arithmetically averaged in proportion to the respective sales fraction (rounded to the nearest 0.0001) of each vehicle configuration and the resultant CO_2 emission value rounded to the nearest 0.1 gram per mile.

(5) The procedure specified in § 600.209–12(a) will be repeated for each base level, thus establishing city and highway fuel economy and CO_2 emission values for each base level.

(6) [Reserved]

(7) For alcohol dual fuel automobiles and natural gas dual fuel automobiles, the procedures of paragraphs (a)(1) through (6) of this section shall be used to calculate two separate sets of city,

highway, and combined fuel economy and CO_2 emission values for each base level.

(i) Calculate the city and highway fuel economy and CO_2 emission values from the tests performed using gasoline or diesel test fuel.

(ii) If 5-cycle testing was performed on the alcohol or natural gas test fuel, calculate the city and highway fuel economy and CO_2 emission values from the tests performed using alcohol or natural gas test fuel.

(b) *Model type.* For each model type, as determined by the Administrator, city and highway fuel economy and CO_2 emissions values will be calculated by using the projected sales and fuel economy and CO_2 emission values for each base level within the model type. Separate model type calculations will be done based on the vehicle configuration fuel economy and CO_2 emission values as determined in § 600.207, as applicable.

(1) If the Administrator determines that automobiles intended for sale in the State of California are likely to exhibit significant differences in fuel economy and CO_2 emissions from those intended for sale in other states, he will calculate fuel economy and CO_2 emission values for each model type for vehicles intended for sale in California and for each model type for vehicles intended for sale in the rest of the states.

(2) The sales fraction for each base level is calculated by dividing the projected sales of the base level within the model type by the projected sales of the model type and rounding the quotient to the nearest 0.0001.

(3)(i) The 5-cycle city fuel economy values of the model type (calculated to the nearest 0.0001 mpg) are determined by dividing one by a sum of terms, each of which corresponds to a base level and which is a fraction determined by dividing:

(A) The sales fraction of a base level; by

(B) The 5-cycle city fuel economy value for the respective base level.

(ii) The 5-cycle city CO_2 emissions of the model type (calculated to the nearest tenth of a gram per mile) are determined by a sum of terms, each of which corresponds to a base level and which is a product determined by multiplying:

(A) The sales fraction of a base level; by

(B) The 5-cycle city CO_2 emissions for the respective base level.

(4) The procedure specified in paragraph (b)(3) of this section is repeated in an analogous manner to determine the highway and combined fuel economy and CO_2 emission values for the model type.

(5) For alcohol dual fuel automobiles and natural gas dual fuel automobiles the procedures of paragraphs (b)(1) through (4) of this section shall be used to calculate two separate sets of city and highway fuel economy and CO_2 emission values for each model type.

(i) Calculate the city and highway fuel economy and CO_2 emission values from the tests performed using gasoline or diesel test fuel.

(ii) Calculate the city, highway, and combined fuel economy and CO_2 emission values from the tests performed using alcohol or natural gas test fuel, if 5-cycle testing was performed on the alcohol or natural gas test fuel. Otherwise, the procedure in § 600.210–12(a)(3) or (b)(3) applies.

[76 FR 39553, July 6, 2011]

§ 600.210–12 Calculation of fuel economy and CO_2 emission values for labeling.

(a) *General labels.* Except as specified in paragraphs (d) and (e) of this section, fuel economy and CO_2 emissions for general labels may be determined by one of two methods. The first is based on vehicle-specific model-type 5-cycle data as determined in § 600.209–

12(b). This method is available for all vehicles and is required for vehicles that do not qualify for the second method as described in § 600.115 (other than electric vehicles). The second method, the derived 5-cycle method, determines fuel economy and CO_2 emissions values from the FTP and HFET tests using equations that are derived from vehicle-specific 5-cycle model type data, as determined in paragraph (a)(2) of this section. Manufacturers may voluntarily lower fuel economy values and raise CO_2 values if they determine that the label values from any method are not representative of the fuel economy and CO_2 emissions for that model type. MPG values may not be lowered without also making a corresponding change to the CO_2 value for a model type.

(1) *Vehicle-specific 5-cycle labels.* The city and highway model type fuel economy determined in § 600.209–12(b), rounded to the nearest mpg, and the city and highway model type CO_2 emissions determined in § 600.209–12(b), rounded to the nearest gram per mile, comprise the fuel economy and CO_2 emission values for general fuel economy labels, or, alternatively;

(2) *Derived 5-cycle labels.* Derived 5-cycle city and highway label values are determined according to the following method:

(i)(A) For each model type, determine the derived five-cycle city fuel economy using the following equation and coefficients determined by the Administrator:

$$\text{Derived 5-cycle City Fuel Economy} = \frac{1}{\left(\{\text{City Intercept}\} + \dfrac{\{\text{City Slope}\}}{\text{MT FTP FE}} \right)}$$

Where:

City Intercept = Intercept determined by the Administrator based on historic vehicle-specific 5-cycle city fuel economy data.

City Slope = Slope determined by the Administrator based on historic vehicle-specific 5-cycle city fuel economy data.

MT FTP FE = the model type FTP-based city fuel economy determined under

§ 600.208–12(b), rounded to the nearest 0.0001 mpg.

(B) For each model type, determine the derived five-cycle city CO_2 emissions using the following equation and coefficients determined by the Administrator:

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